

INDIAN SPECIES OF THE GENUS *TRICHAPORUS* FOERSTER
(HYMENOPTERA: APHELINIDAE)¹

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(With eleven text-figures)

The genus *Trichaporus* Foerster is recorded for the first time from India. Among the three species collected two have been described as new to science and one species *T. partenopeus* (Masi) has been reported for the first time. A key to the three Indian species of *Trichaporus* Foerster is given. The specimens have been deposited in the Zoological museum, Aligarh Muslim University, Aligarh, India.

Genus *Trichaporus* Foerster

Trichaporus Foerster, 1856, *Hym. Stud.* 2:84.

Type-species: *Encarsia partenopea* Masi. Designated by Nikol'skaya & Yasnosh, 1966, *Opred. Faune. SSSR.* 91:264.

The distinguishing characters of the genus *Trichaporus* Foerster have been given by Dozier (1933), Nikol'skaya (1952), Peck *et al.* (1964) and Nikol'skaya and Yasnosh (1966). This is the first report of the genus from India.

KEY TO THE INDIAN SPECIES OF *Trichaporus* FOERSTER, BASED ON FEMALES

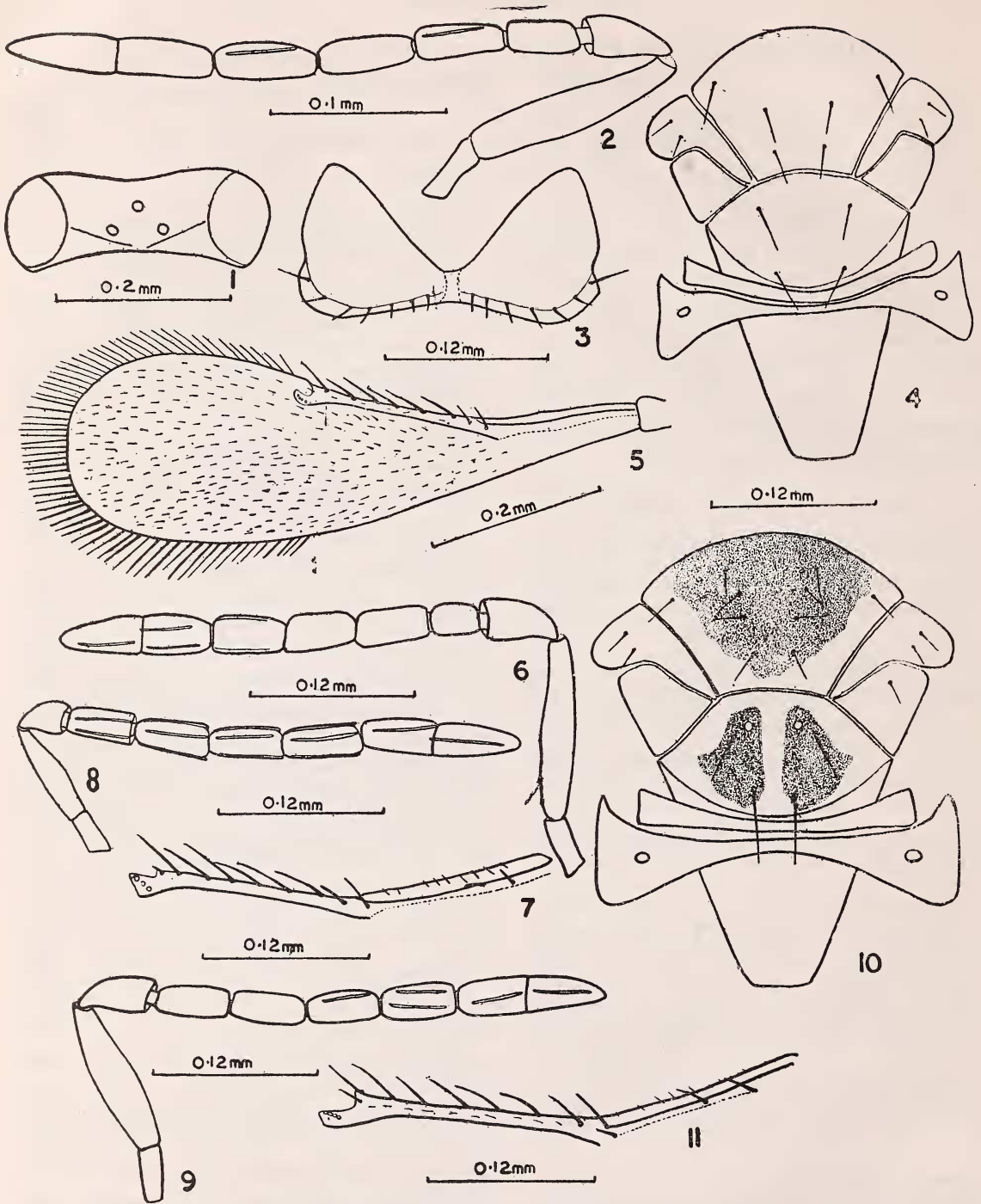
1. Thorax completely yellowish brown (Fig. 4); scape longer than basal two funicle segments together, first funicle segment shorter than second (Figs. 2, 6).....2
- Thorax yellowish brown except one large patch on scutum and two small patches on scutellum which are dark (Fig. 10; Nikol'skaya & Yasnosh, 1966, Fig. 468); scape as long as basal two funicle segments together, first funicle segment as long as second (Fig. 9; Nikol'skaya & Yas-

- nosh, 1966, Fig. 469); funicle segments 1-4 subequal in length; third valvulae short.....
.....*T. partenopeus* (Masi)
2. Coxae yellow; first funicle segment twice as long as wide; funicle segments 2-4 gradually increasing in length distad, each more than two and a half times as long as wide; club five times as long as wide; scutum with three pairs of setae.....*T. indicus* sp. nov.
 - Coxae dark; first funicle segment one and a half times as long as wide; funicle segments 2-4 subequal, each about twice as long as wide; club four times as long as wide; scutum with four pairs of setae.....*T. gunturensis* sp. nov.
- Trichaporus indicus* sp. nov.** (Figs. 1-5)

FEMALE: Head (Fig. 1) yellowish, wider than long in facial view (0.26:0.2 mm); frontovertex two times wider than long; ocelli red, arranged in obtuse triangle, basal ocellus separated by three times its diameter from eye rim and less than twice its diameter from occipital margin; prominence between antennal sockets one-fifth the width of frontovertex (0.03:0.15 mm); malar space slightly shorter than longitudinal diameter of eye (0.08:0.11 mm); eyes bare; mandibles tridentate; maxillary palpi 2-segmented, labial palpi unisegmented. Antennae (Fig. 2) yellowish; scape cylindrical, five times longer than wide, longer than basal two funicle segments together; pedicel twice as long as wide, distinctly longer than first funicle segment; first funicle segment shortest, about twice as long as wide; funicle segments 2-4 gradually lengthened distad, each more than 2½ times longer than wide; club 2-segmented, five times longer than wide, slightly longer than preceding two funicle segments combined. Thorax yellowish

¹ Accepted May 1978.

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Figs. 1-5. *Trichaporus indicus* sp. nov., ♀, (1) Head, in dorsal view; (2) Antenna; (3) Pronotum; (4) Thorax; (5) Fore wing. Figs. 6-8. *Trichaporus gunturensis* sp. nov., ♀, (6) Antenna, ♀; (7) Fore wing venation, ♀; (8) Antenna, ♂. Figs. 9-11. *Trichaporus partenopeus* (Masi), ♀, (9) Antenna; (10) Thorax; (11) Fore wing venation.

brown; pronotum (Fig. 3) very narrow in middle, much expanded on sides, anterior margin deeply and acutely notched in middle; mesoscutum and scutellum with 3 and 2 pairs of setae respectively (Fig. 4); each parapside with 2 setae; axillae bare; scutum and scutellum with reticulate sculpture. Fore wings hyaline, three times longer than wide (0.63:0.21 mm) (Fig. 5); costal cell narrow; marginal vein slightly longer than submarginal vein (0.16:0.14 mm), the former with 8 setae; postmarginal vein rudimentary; stigmal vein short; marginal fringe short and are spaced by a distance equal to one-fourth their length. Hind wings hyaline, eight times longer than wide; marginal fringe longer than wing width. Legs orange yellow. Abdomen orange yellow except basal two segments which are infuscated; about as long as thorax (0.26:0.26 mm); ovipositor concealed.

Female length : 0.69 mm.

Holotype ♀, ex Aleyrodid on *Nerium*, INDIA, Tamil Nadu, Ootacamund, 24.vi.1968. Coll. S. Adam Shafee.

Paratypes. 6 ♀ (Same data as for holotype).

Trichaporus gunturensis sp. nov. (Figs. 6-8)

FEMALE: Head yellowish, wider than long in facial view; frontovertex about twice as long as wide; ocelli red, arranged in obtuse triangle, basal ocellus separated by more than twice its diameter from eye rim and twice its diameter from occipital margin; antennae inserted at lower level of eyes; malar space about as long as eye width; maxillary palpi 2-segmented, labial palpi unisegmented. Antennae (Fig. 6) yellowish; scape cylindrical, five times as long as wide, longer than basal two funicle segments together; pedicel twice as long as wide, distinctly longer than first funicle segment; funicle 4-segmented; first funicle segment shortest, one and a half times

as long as wide; funicle segments 2-4 subequal in length, each twice as long as wide; club 2-segmented, four times as long as wide, slightly longer than preceding two funicle segments together. Thorax yellowish brown; mesoscutum and scutellum reticulately sculptured and with 4 and 2 pairs of setae respectively. Fore wings hyaline, three times as long as wide (0.6:0.2 mm); costal cell long and narrow; submarginal vein about as long as marginal vein; postmarginal vein rudimentary; stigmal vein short (Fig. 7); marginal fringe short, spaced by a distance equal to one-fourth their length. Hind-wings hyaline, about five times as long as wide; marginal fringe length more than the greatest wing width. Legs orange yellow except coxae which are dark. Abdomen orange yellow except basal two segments which are slightly infuscated; ovipositor concealed.

Female length: 0.72 mm.

Male antenna as shown in figure 8.

Holotype ♀. ex Aleyrodid on weed plant, INDIA, Andhra Pradesh, Guntur, Budampadu, 3.iii.1967. Coll. S. Adam Shafee.

Paratypes.—4 ♀, 3 ♂ (Same data as for holotype).

Trichaporus partenopeus (Masi) (Figs. 9-11)
Trichaporus partenopeus (Masi); Nikol'skaya & Yasnosh, 1966, *Opred. Faune. SSSR.* 91:267.

FEMALE: Head brownish, wider than long in facial view; frontovertex two and a half times wider than long; ocelli white, arranged in obtuse triangle, basal ocellus separated by twice its diameter from eye rim and by its own diameter from occipital margin; malar space longer than eye width; maxillary palpi 2-segmented, labial palpi unisegmented. Antennae (Fig. 9) yellowish; scape cylindrical, four times longer than wide, as long as basal

two funicle segments together; pedicel twice as long as wide, as long as first funicle segment; funicle segments 1-4 subequal in length, each slightly more than twice as long as wide; club 2-segmented, four times as long as wide, as long as preceding two funicle segments together. Thorax yellowish brown except one large patch on scutum and two small patches on scutellum which are dark; mesoscutum and scutellum reticulately sculptured and with 5 and 2 pairs of setae respectively. Fore wings hyaline, two and a half times as long as wide; costal cell narrow; submarginal vein shorter than marginal vein; postmarginal vein absent. Hind wings hyaline, seven times as long as wide; marginal fringe long, as long as wing

width. Legs orange yellow. Abdomen orange yellow except base and lateral margins of dorsum which are infuscated; ovipositor concealed, arising from the base of abdomen.

Female length: 0.64 mm.

Material examined. 3 ♀, 2 ♂, ex Aleyroid, INDIA, Maharashtra, Nasik, 4.v.1969. Coll. S. Adam Shafee.

ACKNOWLEDGEMENTS

We are indebted to Prof. S. Mashood Alam, Head, Department of Zoology, Aligarh Muslim University, Aligarh, for providing research facilities. Thanks are also due to Prof. Nawab H. Khan for encouragement.

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STUDIES ON THE SCARAB BEETLES (COLEOPTERA: SCARABAEIDAE) OF NORTH INDIA PART II. THREE NEW SPECIES AND TWO NEW RECORDS FROM INDIA¹

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(With four text-figures)

Three new species, *Copris* (*S. str.*) *siangensis*, *Onitis assamensis* and *Drepanocerus kazirangensis* are described. Two species, *Drepanocerus runicus* Arrow and *Drepanocerus striatulus* Paulian are recorded for the first time from India.

1. *Copris* (*S. str.*) *siangensis*. sp. nov. (Figs. 1, 2)

¹ Accepted November 1978.

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MALE: Body elongated oval, highly convex, upper surface black and shining; mouth organs, antennae, legs and scanty hairs beneath reddish.

Head broad, almost semicircular, with a long, backwardly directed horn with two tubercles, placed posteriorly about one third dist-